CLAIMS

1. Polyketone fibers comprising a polyketone that contains 95% by mole or more, on the basis of the total repeating units, of a repeating unit represented by the formula (1) shown below based, and showing a minimum value of a UV absorbance ($A_{min}(F)$) observed in a wavelength region of 210 to 240 nm of 0.5 or less.

$-CH_2CH_2-CO-$ (1)

2. The polyketone fibers according to claim 1, wherein the polyketone fibers show a tensile strength of 10 cN/dtex or more and a tensile elastic modulus of 200 cN/dtex or more.

3. The polyketone fibers according to claim 1 or 2, wherein the polyketone fibers show $A_{min}(F)$ of 0.3 or less.

4. The polyketone fibers according to any one of claims 1 to 3, wherein the polyketone fibers show a tensile strength of 12 cN/dtex or more and a tensile elastic modulus of 250 cN/dtex or more.

5. The polyketone fibers according to any one of claims 1 to 4, wherein the polyketone fibers show a tensile strength of 15 cN/dtex or more and a tensile elastic modulus of 300 cN/dtex or more.

6. The polyketone fibers according to any one of claims 1 to 5, wherein the number of filaments is from 100 to 5,000, and the number of fluffs is 10 or less per 10,000 m.

7. The polyketone fibers according to any one of claims 1 to 6, wherein the polyketone fibers show a heat-resistant tensile strength retention of 75% or more.

8. A process for producing polyketone fibers, wherein a polyketone solution prepared by dissolving a polyketone that contains 95% by mole or more, on the basis of the total repeating units, of a repeating unit represented by the formula (1) shown below in an aqueous solution containing at least one metal salt selected from the group consisting of a zinc salt, a calcium salt and a

thiocyanic acid salt is used, and the polyketone in the polyketone solution injected through a spinneret shows a minimum value of a UV absorbance $A_{min}(S)$ observed in a wavelength region of 210 to 240 nm of 0.5 or less.

$-CH_2CH_2-CO-$ (1)

9. A process for producing polyketone fibers, wherein a polyketone solution prepared by dissolving a polyketone that contains 95% by mole or more, on the basis of the total repeating units, of a repeating unit represented by the formula (1) shown below in an aqueous solution containing at least one metal salt selected from the group consisting of a zinc salt, a calcium salt and a thiocyanic acid salt is used, and when a period (assumed to be P minutes) from dissolving the polyketone in the aqueous metal salt solution to injecting the polyketone solution through a spinneret is divided into every minute and the arithmetic mean of a heating temperature at t-1 minutes from dissolution of the polyketone and a heating temperature at t minutes therefrom is represented by $T_t(K)$, the following formula (2) is satisfied.

$-CH_2CH_2-CO-$ (1)

$$S = \sum_{t=1}^{t=P} 1.53 \times 10^8 \times [\exp(-8547/T_t)] \leq 1.00 \quad (2)$$

wherein t in (2) is a natural number from 1 to P (minutes), provided that when there is a fraction of less than 1 minute in the period from dissolving the polyketone in the aqueous metal salt solution to injecting the polyketone solution through a spinneret, the fraction is eliminated with the resultant period being P.

10. The process for producing polyketone fibers according to claim 9, wherein the following formula (3) is satisfied:

$$S = \sum_{t=1}^{t=P} 1.53 \times 10^8 \times [\exp(-8547/T_t)] \leq 0.60 \quad (3)$$

11. The process for producing polyketone fibers according to claim 9 or 10, wherein the aqueous metal

salt solution is an aqueous solution in which a zinc salt and a metal salt other than a zinc salt are mixed, and the polyketone subsequent to injecting the polyketone solution through a spinneret is coagulated, cleaned, dried and hot drawn.

12. The process for producing polyketone fibers according to claim 11, wherein the hot drawing temperature is from 100 to 300°C, and the total hot draw ratio is 7 or more.

13. The process for producing polyketone fibers according to any one of claims 9 to 12, wherein the temperature of the polyketone solution injected through the spinneret is from 60 to 100°C.

14. The process for producing polyketone fibers according to any one of claims 9 to 13, wherein the temperature in the dissolution step is from 10 to 60°C, and the dissolution period is 10 hours or less.

15. The process for producing polyketone fibers according to any one of claims 9 to 14, wherein the polyketone solution has a phase separation temperature of 0 to 250°C.

16. The process for producing polyketone fibers according to claim 15, wherein the phase separation temperature is from 10 to 150°C.

17. The process for producing polyketone fibers according to any one of claims 9 to 16, wherein the polyketone solution contains 50 ppm or less of palladium based on the weight of the polymer.

18. The process for producing polyketone fibers according to any one of claims 9 to 17, wherein the aqueous metal salt solution contains from 10 to 60% by weight of a zinc salt.

19. The process for producing polyketone fibers according to claim 11, wherein the total sum of metal elements originating from the solvent remaining in the polyketone fibers prior to hot rolling is 500 ppm or less

based on the weight of the polymer.

20. A twisted yarn cord formed out of the polyketone fibers according to any one of claims 1 to 7, and having a twist factor K represented by the following formula is from 1,000 to 30,000:

$$K = Y \times D^{0.5}$$

wherein Y is a number of twist (T/m) per m of the twisted yarn cord, and D is the total size (dtex) of the yarn prior to twisting.

21. The twisted yarn cord according to claim 20, wherein the tensile strength is 5 cN/dtex or more.

22. A treated cord prepared by imparting a resorcin-formalin-latex resin to the twisted yarn cord according to claim 20 or 21.

23. A fiber-reinforced composite material containing the polyketone fibers according any one of claims 1 to 7.

24. The fiber-reinforced composite material according to claim 23, wherein the fiber-reinforced composite material is a tire or a belt.